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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,099	10/22/2003	Tommy D. Hollingsworth	Solectron 732	4777

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Robert Moll
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EXAMINER	
NGUYEN, KIMNHUNG T	
ART UNIT	PAPER NUMBER
2677	

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/691,099	HOLLINGSWORTH, TOMMY D.	
	Examiner	Art Unit	
	Kimnhung Nguyen	2677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5,6,10-12 and 14* is/are rejected.

7)☒ Claim(s) *2-4,7-9 and 13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/19/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Application has been examined. The claims 1-14 are pending. The examination results are as following.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 5, 6, 10-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Philipp (US 6,452,514) in view of Sandbach et al. (US 6,861,961) and in view of Mikami.

Regarding claims 1,11, Philipp discloses in fig. 4a, an electric field proximity keyboard on a substrate, comprising: a plurality of keypads (see col. 2, lines 13-18) each having an electrode radiating an electric field (see fig. 4a), a circuit (figs. 4a-4b) including as follows: a circuit having a first node and a second node; an AC signal source coupled to the first node (see fig. 4a-4b, col. 6,lines 55-57), an analog multiplexer (601, figs. 4a-5) having an output coupled to the second node, and having a plurality of inputs wherein each input is coupled to one electrode (see col. 10,lines 38-40); a detector circuit (902, see col. 11, lines 30-31); and a controller (408) coupled to the analog multiplexer wherein the controller issues control commands to the analog multiplexer (601) to selectively couple each electrode to the second node for a predetermined time period and to determine a disturbance in the electric field from an object in close proximity or touching the keypad.

However, Philipp does not disclose a high impedance circuit having a first node and a second node; and a controller coupled to DC output of the electric field proximity keyboard.

Sandbach et al. discloses in figs. 10, 13, a computer keyboard system having a high impedance circuit having a first node and a second node (see fig. 4a, 13, see col. 14, lines 18-21); and a controller (901) coupled to an inherent DC output of the electric field proximity keyboard (see col. 11, lines 48-54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the computer keyboard system having a high impedance circuit having a first node and a second node; and a controller coupled to a DC output of the electric field proximity keyboard as taught by Sandbach et al. into the electric field proximity of keyboard of Philipp because this would provide an output indicating the location to output socket via the switching circuit, and the detection processor then reset the multiplexer switching circuit to its initial state in readiness for the next mechanical interaction to be detected (see col. 11, lines 48-54).

Regarding claims 5, 14, Philipp discloses further, wherein the controller (408) is programmed to store (see fig. 5a-5b, see col. 11, lines 18-21, adjust and compensate for the shape, size, conductivity, proximity (see col. Col. 13, lines 65-67 and col. 14,lines 1-4) of the object (finger) with respect to the plurality of electrodes and environment conditions.

Regarding claims 6, 10, Philipp discloses further, wherein the circuit is integrated with the controller in a semiconductor (see col. 10,lines 31-36).

Regarding claim 12, Philipp discloses further wherein one of the AC signal source coupled to the first node (see fig. 4a-4b, col. 6,lines 55-57), a detector circuit are integrated with

the controller on a single semiconductor as discussed above. However, Philipp does not disclose a high impedance circuit. Sanndbach et al. discloses a high impedance circuit as discussed above.

Allowable Subject Matter

3. Claims 2-4, 7-9 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: None of the cited art teaches or suggests that an electric field proximity keyboard on a substrate further wherein the object or touching each keypad disturbs the electric field attenuating the voltage at the second node and the voltage different between the first and second nodes indicates the distance of the object to each keypad as claims 2 and 13; or wherein the plurality of keypads is arranged in an m x n array with m rows and n columns, wherein each keypad include an electrode pair including a row electrode coupled to a row address and column electrode coupled to a column address, wherein the quantity of keypads is increased by m x n while the I/O addresses are determined by m+ n or wherein the sensitivity and resolution of a keypad is increased by m x n times as claims 3, 4.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimnhung Nguyen whose telephone number is (571) 272-7698. The examiner can normally be reached on MON-FRI, FROM 8:30 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kimnhung Nguyen
March 14, 2006

RICHARD HJERPE
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